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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/307,574	05/07/1999	PHILIP E. MATTISON	042390.P4577	5046

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
12400 WILSHIRE BOULEVARD
7TH FLOOR
LOS ANGELES, CA 90025

EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 03/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/307,574

Applicant(s)

MATTISON, PHILIP E.

Examiner

Thanh X Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to amendments and remarks filed January 18, 2002. Claims 16-42 are currently pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 18, 19, 26, 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 18, 26, it is unclear in its given context how the S/H amplifier "matches" the dynamic range of the photocell and the A/D converter.

Regarding claim 19, 27, it is unclear in its given context how the S/H amplifier "modifies the dynamic range" of the photocell based on ambient light conditions. There is no input to the photocell from the S/H amplifier.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 16, 17, 24 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Mechlenburg (U.S. Patent 4,724,311).

Regarding claims 16, 17, 24 and 25, Mechlenburg discloses (see Figure 1) a method and an apparatus comprising: an analog photocell (18); a sample and hold amplifier (22), hereinafter S/H amplifier, a first input to the S/H amplifier being a charge from the analog photocell, a second input to the S/H amplifier being a reference voltage

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(from 28); and an analog to digital converter (24), hereinafter A/D converter, the A/D converter converting the output of the S/H amplifier to a digital value. The S/H amplifier produces a scaled version of the voltage output of the analog photocell.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18, 19, 26, 27, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Mechlenburg.

Regarding claims 18, 19, 26 and 27, Mechlenburg does not specifically disclose matching or modifying the dynamic range. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an appropriate S/H amplifier that works at a desired dynamic range in the apparatus of Mechlenburg in order to provide the desired results. Furthermore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the dynamic range of the photocell in the apparatus of Mechlenburg to improve detection.

6. Claims 20-23 and 28-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mechlenburg in view of Gordon et al. (U.S. Patent 3,833,903).

Regarding claims 20-23 and 28-42, Mechlenburg discloses (see Figure 1) the apparatus as claimed and an A/D converting module (24). Mechlenburg also discloses (see column 2, lines 54-59) "The... analog to digital converter 24 may be comprised of any commercially available components and operated according to standard and well-known techniques." Thus, Mechlenburg recognize that any type of A/D convert may be used. However, Mechlenburg does not specifically disclose the specifics of the A/D converter. Gordon et al. discloses (see Figure 2) an A/D converter comprising a voltage controlled oscillator (46), hereinafter VCO, an input of the VCO being an analog input; and a counter (50) being driven by the output of the VCO. Thus, Gordon et al. teach (see column 1, lines 37-39) of a simple and inexpensive A/D converting module. The output of the counter is inherently stored into memory or a register and is proportional to the intensity of light on the photocell. The output stored in the register is a digital value that is based on the intensity of light incident on the photocell. Further, since the S/H amplifier amplifies, the S/H amplifier scales the input to the VCO. Also, since the input of the VCO is base on an input from the photocell, the input to the VCO is scaled based on ambient light levels. Gordon et al. also disclose (see Figure 2) the counter is reset (RESET) after a certain period of time. The photocell is included in a pixel array (see Mechlenburg; 18, 18a, 18b). In addition, since the register or memory stores all the values, it inherently stores values based on previous integration time periods. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the A/D converter of Gordon et al. in the apparatus of Mechlenburg as desired to reduce the cost and complexity of the apparatus. Furthermore, it would have

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been obvious to a person of ordinary skill in the art at the time the invention was made to provide the time period as the integration time of the photocell in the apparatus of Mechlenburg in view of Gordon et al. to provide optimal A/D conversion.

Response to Arguments

7. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-


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0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham, can be reached on (703) 308-4090. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
March 8, 2002


Que T. Le
Primary Examiner